

Claims

1. Microcomponent comprising a hermetically-sealed microcavity (6) delineated by a cover comprising a first layer (4), in which at least one hole

5 (5) is formed, and a second layer (7) making the microcavity (6) hermetic, microcomponent comprising a third layer (9) arranged between the first (4) and second (7) layer, an additional microcavity (11), communicating with the hole (5) and arranged between the first (4) and third (9) layer, and at least one additional hole (10), adjacent to the additional microcavity (11), formed in
10 the third layer (9), offset with respect to the hole (5) and sealed by the second layer (7), microcomponent characterized in that it comprises at least one mechanically tensile-stressed layer arranged above the first layer (4).

2. Microcomponent according to claim 1, characterized in that the additional
15 microcavity (11) communicates with the additional hole (10).

3. Microcomponent according to one of the claims 1 and 2, characterized in
that the hole (5) is arranged on the highest part of the microcavity (6).

20 4. Microcomponent according to any one of the claims 1 to 3, characterized
in that the offset between the hole (5) and the additional hole (10) is such that
the additional hole (10) does not cover the hole (5), even partially.

25 5. Microcomponent according to any one of the claims 1 to 4, characterized
in that two additional holes (10) are associated with each hole (5), so that a
suspended bridge (12), formed in the third layer (9) and delineated by the two
additional holes (10), covers the hole (5).

30 6. Method for production of a hermetically-sealed microcavity (6) of a
microcomponent according to any one of the claims 1 to 5, successively
comprising

- deposition of a sacrificial layer (3) on a substrate (2),
- deposition of a first layer (4) forming a cover, on the substrate (2) and sacrificial layer (3),
- etching, in the first layer (4), of at least one hole (5) opening out onto the sacrificial layer (3),
- removal of the sacrificial layer (3), via the hole (5), so as to create a microcavity (6),
- deposition of a second layer (7), so as to make the microcavity (6) hermetic,

5 10 method characterized in that it comprises, after etching of the hole (5) and before removal of the sacrificial layer (3),

- deposition of an additional sacrificial layer (8) covering the hole (5) and a part of the first layer (4), over the periphery of the hole (5),
- deposition of a third layer (9) on the first layer (4) and the additional sacrificial layer (8),
- etching of at least one additional hole (10), in the third layer (9), offset with respect to the hole (5) and opening out onto the additional sacrificial layer (8),

15 20 removal of the sacrificial layer (3) and of the additional sacrificial layer (8) being performed through the additional hole (10) so as to create the microcavity (6), and deposition of the second layer (7) being performed on the third layer (9) so as to seal the additional hole (10), the method comprising deposition of at least one mechanically tensile-stressed layer, after deposition of the first layer (4).

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7. Method according to claim 6, characterized in that the third layer (9) is mechanically tensile-stressed so that the part of the third layer (9) released by removal of the additional sacrificial layer (8) flexes in the direction of the first layer (4).

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8. Method according to claim 6, characterized in that the third layer (9) is formed by a first mechanically tensile-stressed sub-layer (9a) covered by a second mechanically compressive-stressed sub-layer (9b), the second sub-layer (9b) being removed after the sacrificial layers (3, 8) have been removed.
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9. Method according to claim 6, characterized in that, after the sacrificial layers (3, 8) have been removed, a mechanically tensile-stressed fourth layer (13) is deposited on the third layer (9), so that the third (9) and fourth (13) layers flex in the direction of the first layer (4).
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